

## REMARKS

Claims 91-93 have been added so that claims 32, 34, 36-42, 44, 46, 48, 49, 51, 53 and 55-93 are now in the application.

Claims 32, 34, 36-42, 44, 46, 48, 49, 51, 53 and 51-73 have been allowed.

Claims 68-70 were rejected under 35 USC 112, second paragraph, on the basis that the angle  $\beta$  of zero in claim 68 is outside the range of an angle  $\beta$  from  $10^\circ$  -  $30^\circ$  in claim 64. Claim 68 has been amended to delete the phrase "and angle  $\beta$  is  $0^\circ$  " so as to overcome this rejection.

Claims 55, 59 and 63 were rejected under 35 USC 103(a) as being unpatentable over Lin in view of Pinarbasi and Fujikata. Claim 55 is distinguished over these references by reciting:

"the oblique ion beam sputtering being at angles  $\alpha$  and  $\beta$  wherein each angle  $\alpha$  and  $\beta$  is acute and wherein the angles  $\alpha$  and  $\beta$  form first and second planes respectively which are orthogonal with respect to each other."

This step is shown in Figs. 15A and 15B wherein each of the angles  $\alpha$  and  $\beta$  is acute and each of the angles  $\alpha$  and  $\beta$  form first and second planes which are orthogonal with respect to one another. In contrast, there is no teaching in Pinarbasi, such as the teaching shown in Fig. 9, which suggests an angle  $\beta$  which is acute and forms a second plane. In support of his rejection, the Examiner states:

*"Since Pinarbasi teach an angle of 0 to 60 degrees which is representative of the  $\alpha$  angle and suggest no ranges of other angles it is believed that such "no suggestion" of other angles must include a  $\beta$  angle of 0 degrees. Since a  $\beta$  angle of 0 degrees can exist in a plane perpendicular to the plane containing the  $\alpha$  angle it is believed this suggests Applicant's claim limitation. It should be noted that Applicant's  $\beta$  angle can be 0 degrees."*

The Applicant maintains that if the angle  $\beta$  is 0 degrees in Pinarbasi that it is not "acute" as specifically recited hereinabove in claim 55 nor can an angle of 0 degrees form a second plane as specifically recited hereinabove in claim 55. The Applicant respectfully invites the Examiner's attention to Exhibit A which is a copy from "Webster's Third New International Dictionary" which defines an angle as:

" . . . 2a: the figure formed by two lines diverging from the same point or by two surfaces diverging from the same line . . . "

Accordingly, two lines must diverge from the same point in order to define an angle. Without this, such as a single line, there is no angle. The illustration in Exhibit *A* defines various angles such as an acute angle which is specifically recited in claim 55. It can be seen from the illustration in Exhibit *A* that  $FBD$ ,  $F'BD$  and  $F''BD$  are acute angles. The "angle  $BD$ ", as maintained by the Examiner, is in reality not an angle and is simply a line  $BD$ . The fact that claim 55 recites angle  $\beta$  as being acute makes angle  $\beta$  greater than zero as illustrated by Exhibit *A*. Next, the angle  $\beta$  is not only acute but it forms a second plane. In contrast, the line  $BD$  does not form a plane but is simply a line which may be within a plane. A line within a plane will define a  $\beta$  angle of 0 degrees, as maintained by the Examiner, however, a  $\beta$  angle of 0 degrees is in reality not an angle as defined by *Webster*, nor can a  $\beta$  angle of 0 degrees be acute as recited in claim 55 and as defined by Exhibit *A* and nor can a  $\beta$  angle of 0 degrees define a second plane (see Exhibit *A*) as recited in claim 55. It should be noted that an infinite number of lines lie within a plane but none of these lines form an angle with the plane until they rotate therefrom. In the last sentence of Examiner's argument he states:

*" . . . It should be noted that Applicant's  $\beta$  angle can be 0 degrees."*

The Applicant maintains that this is impossible since claim 55 recites angle  $\beta$  as being acute and further that angle  $\beta$  defines a second plane. The query is how angle  $\beta$  can be 0 degrees and still be acute as defined by Exhibit *A*. Another query is how angle  $\beta$  can be 0 degrees and define a second plane. Claims 59 and 63, which are dependent upon claim 55, are considered to be patentable over the references for the same reasons as given in support for claim 55.

Claims 74 and 75 were rejected under 35 USC 103(a) as being unpatentable over Pinarbasi.

Claim 74 is distinguished over Pinarbasi by reciting:

"positioning the planar surfaces at angles  $\alpha$  and  $\beta$  with respect to one another wherein angle  $\alpha$  forms a first plane intersecting the first and second planar surfaces and angle  $\beta$  forms a second plane intersecting the first and second planar surfaces as well as the first plane with the intersection of the first and second planes being orthogonal with respect to each other;"

Claim 74 recites angle  $\beta$  as forming a second plane. In support of his rejection the Examiner states:

"Since Pinarbasi teach an angle of 0 to 60 degrees which is representative of the  $\alpha$  angle and suggest no ranges of other angles it is believed that such "no suggestion" of other angles must include a  $\beta$  angle of 0 degrees. Since a  $\beta$  angle of 0 degrees can exist in a plane perpendicular to the plane containing the  $\alpha$  angle it is believed this suggests Applicant's claim limitation. It should be noted that Applicant's  $\beta$  angle can be 0 degrees."

If angle  $\beta$  is 0 degrees, as stated by the Examiner, the angle  $\beta$  could not form a second plane as specifically recited in claim 74. Otherwise stated, the recitation in claim 74 specifically negates angle  $\beta$  as being 0 degrees. Claim 75, which is dependent upon claim 74, is considered to be patentable over Pinarbasi for the same reason as given in support for claim 74.

Claims 79 and 83 were rejected under 35 USC 103(a) as being unpatentable over Pinarbasi in view of Lin. Claims 79 and 83, which are dependent upon claim 75, are considered to be patentable over these references for the same reasons as given in support for claim 75.

New claims 91, 92 and 93 are dependent upon claims 55, 74 and 83 respectively and recite each of angles  $\alpha$  and  $\beta$  as being greater than zero. This recitation distinguishes Applicant's invention over Pinarbasi since Pinarbasi's angle  $\beta$  is not greater than zero.

The Examiner indicated the allowability of claims 56-58, 60-62, 64-67, 76-78, 80-82 and 84-90 if rewritten in independent form including all the limitations of the base claim and any intervening claims. These claims have been so amended and should now be in condition for allowance. Since the indefiniteness of claims 68-70 has been overcome, claims 68-70 should also be in condition for allowance.

### ***Response to Examiner's Response to Applicant's Arguments***

In the Examiner's Response he states:

"The remaining argument is whether the angle of  $\beta$  can be interpreted as including the angle  $0^\circ$ . Applicant argues that since the claims have been amended to indicate that the angles form planes this would exclude the use of an angle  $\beta$  equal to  $0^\circ$ . The Examiner argues that the angle  $\beta$  can include  $0^\circ$  since this is a recognized geometric measurement of an angle."

Again, if angle  $\beta$  is equal to zero it is impossible to form a plane as recited in Applicant's claims. The Examiner maintains that when an angle  $\beta$  is zero that this is a recognized geometric measurement of an angle, the Applicant maintains that when an angle is zero it is recognized in the art that there is no degrees and therefore there is no angle. Next the Examiner states:

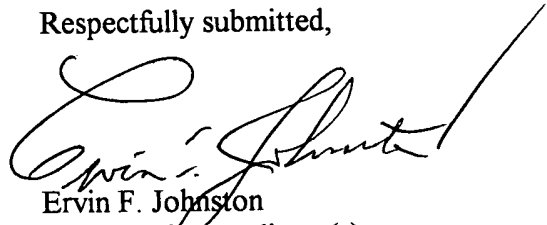
"Furthermore, the Examiner points out that Applicant recognizes and claims that the angle  $\beta$  can equal  $0^\circ$ . This is specifically shown in Applicant's claims for example see claim 83. Therefore the Examiner asserts that Pinarbasi teach an angle of 0 to 60 degrees which is representative of the  $\alpha$  angle and suggest no ranges of other angles and it is believed that such "no suggestion" of other angles must include a  $\beta$  angle of 0 degrees. Since a  $\beta$  of 0 degrees can exist in a plane perpendicular to the plane containing the  $\alpha$  angle it is believed this suggests Applicant's claim limitation."

The Examiner is right that Applicant's claim 83 refers to angle  $\beta$  as being zero. In column 12, lines 46-49 of Pinarbasi, it is stated that an angle can be in a range from 0 degrees through about 60 degrees. The art is replete with instances of reciting angles from 0 degrees to some finite amount. Such statements, however, are a matter of tradition and form and in no way would one skilled in the art consider an angle  $\beta$  of 0 degrees in reality being an angle. This would be contrary to the definition in Exhibit A and contrary to geometric principles. This then becomes an anomaly which the Examiner has seized upon to reject Applicant's claims even though the claims recite angle  $\beta$  as being acute and/or defining a plane. The art refers to an angle as being from 0 degrees to a finite amount. This is done simply for a matter of convenience rather than saying from 0.000001 degrees, for example, to some finite amount in order to capture the breadth that the author desires. Even though the art refers to angles as being from 0 degrees to some finite amount, an angle of 0 degrees should not be considered an angle since substance, as defined by Exhibit A and the art, controls over form and tradition. Accordingly, when the angle is 0 degrees in Pinarbasi or angle  $\beta$  is 0 degrees in

Applicant's claim 83, this is conveying to one skilled in the art that angle  $\beta$  is in reality not an angle. Maybe claim 83 should be rejected as being indefinite by reciting angle  $\beta$  as being zero. However, the argument can then be made that this is standard practice in the art, as shown by Pinarbasi, in referring to a range of angles from zero to some finite amount. Claim 83 could possibly be phrased as "angle  $\alpha$  is acute and is the only angle during sputtering", however, it seems much cleaner to state instead that "angle  $\beta$  is zero". The bottom line is what one skilled in the art would understand from the recitation. The Applicant maintains that one skilled in the art would consider an angle  $\beta$  of zero as being a non-angle. The Applicant maintains that the only real issue is whether a recitation of an angle being zero, such as in Pinarbasi's range from 0 degrees to about 60 degrees and Applicant's angle  $\beta$  as being zero is misleading and therefore renders a claim such as claim 83 as indefinite. While such language may be indefinite, it is replete in the geometric art and therefore becomes a tradition which is well understood by one skilled in the art. Maybe in such an instance tradition should trump indefiniteness.

Should the Examiner have any questions regarding this document he is respectfully requested to contact the undersigned.

Respectfully submitted,



By: Ervin F. Johnston  
Attorney for Applicant(s)  
Registration No. 20,190  
Telephone: 619-334-5883  
Fax: 619-448-1904